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WORK STATUS REPORT

JS-516

Period: May 1 through May 31, 1967

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June 9, 1967

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INTRODUCTION

This progress report covers the period from 1 May through 31 May 1967. Four areas of effort are included:

I. Modification of Richards Viewer

II. Noah's Ark

III. Low Gamma Reversal Process

IV. Color Support

The financial information included in this report is for the entire contract period from 18 October 1966 through 30 April 1967.

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I. MODIFICATION OF RICHARDS VIEWER

PROGRESS DURING PERIOD

The specific modifications necessary to implement the electrostatic platen system on the Richards viewer have been defined. The general characteristics of the modified viewer are:

1. Film will be released from platen by a blast of gas.
2. The source of gas for the blast will normally be a bottle of carbon dioxide; however, an air compressor can be used.
3. There will be no steady flow of air across the film.
4. A static discharge bar and a small blower to remove dust will be mounted at each end of the platen.

WORK PLANNED FOR NEXT PERIOD

1. Mount static bars and blowers.
2. Rearrange plumbing.
3. Provide controls for the system.
4. Determine the number of gas bursts available from the carbon dioxide bottle.
5. Estimate the cost of engineering a modification kit for the viewer.
6. Estimate the production cost of modification kits.

It is anticipated that these items will be completed about June 15, 1967, after which the modified viewer will be available for customer evaluation.

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II. NOAH'S ARK

PROGRESS DURING PERIOD

This project was not worked on during the report period. In any event, there are insufficient funds and time remaining within the present contract to permit a reworking of the Noah's Ark program plan already submitted to the customer.

WORK PLANNED FOR NEXT PERIOD

No specific efforts are planned.

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III. LOW GAMMA REVERSAL PROCESS

PROGRESS DURING PERIOD

Early in this period a major obstacle was overcome with the introduction of hypo into the first developer, HP-4. Prior to this, the HP-4 had given a satisfactory gamma although the density was too high. The addition of hypo lowered the density to a usable range.

Considerable effort was devoted toward developing a suitable means of agitation. A dip method and the use of electric stirrers were not too successful; the mottling problem was finally solved by using vigorous Nikor tank agitation.

Another problem area to receive attention during the report period was that of finding a fogging agent to replace the light exposure presently required during processing. Sodium dithionite, potassium borohydride, and 2-thiobarbituric acid were tested but none was complete satisfactory. The next substance to be tested is sodium arsenite, which is reported to produce results identical to those caused by exposure to light.

Tests were begun on various second developers, or redevelopers. In view of the present lack of a suitable fogging agent, these tests were carried out while employing the light exposure method of fogging. The HP-4 formulation gave a gamma that was too high. Thus far the best results have been obtained with a simple phenidone developer. This has yielded a nearly straight-line D log E curve with a gamma close to that desired. The density was still quite high so that a cleaning bath was used after bleaching. This produced excellent results (see attached graph).

WORK PLANNED FOR NEXT PERIOD

The effort during the next period will be concentrated on the two areas of finding a satisfactory fogging agent and adjusting the gamma values to achieve the desired gamma product.

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PROGRESS DURING PERIOD

The investigation into the merits of Scientia color was terminated at the request of the customer.

WORK PLANNED FOR NEXT PERIOD

No work is planned in this area unless a specific request for support is received from the customer.

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